

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A clocked inverter comprising:
a first transistor and a second transistor electrically connected in series,
a third transistor and a fourth transistor electrically connected in series, and
a fifth transistor and a sixth transistor electrically connected in series, wherein:
gates of the third transistor and the fourth transistor are electrically connected to each other,
drains of the third transistor and the fourth transistor are each electrically connected to a gate of the first transistor,
sources of the first transistor and the fourth transistor are each electrically connected to a first power source,
sources of the second transistor and the sixth transistor are each electrically connected to a second power source,
gates of the fifth transistor and the sixth transistor are electrically connected to each other,
drains of the fifth transistor and the sixth transistor are each electrically connected to a gate of the second transistor,
a first signal is inputted to a source of the third transistor,
a second signal is inputted to a source of the fifth transistor,
the first signal is different from the second signal,
an amplitude of the first signal is smaller than a potential difference between the first power source and the second power source, and
an amplitude of the second signal is smaller than the potential difference between the first power source and the second power source.

2. (Previously Presented) A clocked inverter according to claim 1, wherein:
the first power source is a high potential power source;
the second power source is a low potential power source;
the first transistor, the fourth transistor, and the fifth transistor are each a P-type transistor; and
the second transistor, the third transistor, and the sixth transistor are each an N-type transistor.
3. (Previously Presented) A clocked inverter according to claim 1, wherein:
the first power source is a low potential power source;
the second power source is a high potential power source;
the first transistor, the fourth transistor, and the fifth transistor are each an N-type transistor; and
the second transistor, the third transistor, and the sixth transistor are each a P-type transistor.
4. (Original) A clocked inverter according to claim 1, wherein the third transistor is replaced with an analog switch.
5. (Canceled)
6. (Currently Amended) A clocked inverter comprising:
first to third transistors electrically connected in series, and
a fourth transistor and a fifth transistor electrically connected in series, wherein:
gates of the fourth transistor and the fifth transistor are electrically connected to each other;

drains of the fourth transistor and the fifth transistor are each electrically connected to a gate of the first transistor;

sources of the first transistor and the fifth transistor are each electrically connected to a first power source;

a source of the third transistor is electrically connected to a second power source;

a first signal is inputted to a source of the fourth transistor;

a second signal is inputted to a gate of the second transistor,

the first signal is different from the second signal;

~~an amplitude of [[a]] the first signal inputted to a source of the fourth transistor is smaller than a potential difference between the first power source and the second power source;~~

the first power source is a high potential power source;

the second power source is a low potential power source;

the first transistor and the fifth transistor are each a P-type transistor; and

the second to fourth transistors are each an N-type transistor.

7. (Currently Amended) A clocked inverter comprising:

first to third transistors electrically connected in series,

a fourth transistor and a fifth transistor electrically connected in series, and

a sixth transistor and a seventh transistor electrically connected in series, wherein:

gates of the fourth transistor and the fifth transistor are electrically connected to each other;

drains of the fourth transistor and the fifth transistor are each electrically connected to a gate of the first transistor;

gates of the sixth transistor and the seventh transistor are electrically connected to each other;

drains of the sixth transistor and the seventh transistor are each electrically connected to a gate of the third transistor;

sources of the first transistor and the fifth transistor are each electrically connected to a first power source;

sources of the third transistor and the seventh transistor are each electrically connected to a second power source;

a first signal is inputted to a source of the fourth transistor;

a second signal is inputted to a source of the sixth transistor;

the first signal is different from the second signal;

~~an amplitude of [[a]] the first signal inputted to a source of the fourth transistor is smaller than a potential difference between the first power source and the second power source;~~

the first power source is a high potential power source;

the second power source is a low potential power source;

the first transistor, the second transistor, the fifth transistor, and the sixth transistor are each a P-type transistor; and

the third transistor, the fourth transistor, and the seventh transistor are each an N-type transistor.

8. (Currently Amended) A clocked inverter comprising:

first to third transistors electrically connected in series, and

a fourth transistor and a fifth transistor electrically connected in series, wherein:

gates of the fourth transistor and the fifth transistor are electrically connected to each other;

drains of the fourth transistor and the fifth transistor are each electrically connected to a gate of the first transistor;

sources of the first transistor and the fifth transistor are each electrically connected to a first power source;

a source of the third transistor is electrically connected to a second power source;

a first signal is inputted to a source of the fourth transistor;

a second signal is inputted to a gate of the second transistor,

the first signal is different from the second signal;

an amplitude of [[a]] the first signal inputted to a source of the fourth transistor is smaller than a potential difference between the first power source and the second power source;

the first power source is a low potential power source;

the second power source is a high potential power source;

the first transistor and the fifth transistor are each an N-type transistor; and

the second to fourth transistors are each a P-type transistor.

9. (Currently Amended) A clocked inverter comprising:

first to third transistors electrically connected in series,

a fourth transistor and a fifth transistor electrically connected in series, and

a sixth transistor and a seventh transistor electrically connected in series,

wherein:

gates of the fourth transistor and the fifth transistor are electrically connected to each other;

drains of the fourth transistor and the fifth transistor are each electrically connected to a gate of the first transistor;

gates of the sixth transistor and the seventh transistor are each electrically connected to each other;

drains of the sixth transistor and the seventh transistor are each electrically connected to a gate of the third transistor;

sources of the first transistor and the fifth transistor are each electrically connected to a first power source;

sources of the third transistor and the seventh transistor are each electrically connected to a second power source;

a first signal is inputted to a source of the fourth transistor;

a second signal is inputted to a source of the sixth transistor;

the first signal is different from the second signal;

an amplitude of [[a]] the first signal inputted to a source of the fourth transistor is smaller than a potential difference between the first power source and the second power source;

the first power source is a low potential power source;

the second power source is a high potential power source;

the second transistor, the third transistor, the fourth transistor, and the seventh transistor are each an N-type transistor; and

the first transistor, the fifth transistor, and the sixth transistor are each a P-type transistor.

10. (Previously Presented) A clocked inverter according to claim 6, wherein the fourth transistor is replaced with an analog switch.

11. (Currently Amended) A NAND comprising:

a first transistor and a second transistor;

a third transistor; and

a fourth transistor and a fifth transistor electrically connected in series, wherein:

a drain of the first transistor is electrically connected to a drain of the second transistor and a drain of the third transistor;

gates of the fourth transistor and the fifth transistor are electrically connected to each other;

drains of the fourth transistor and the fifth transistor are each electrically connected to a gate of the third transistor;

sources of the first transistor and the second transistor are each electrically connected to a first potential power source;

sources of the third transistor and the fifth transistor are each electrically connected to a second potential power source; and

an amplitude of a signal inputted to a source of the fourth transistor and each of gates of the first transistor, the second transistor, the fourth transistor, and the fifth transistor is smaller than a potential difference between the first potential power source and the second potential power source.

12. (Previously Presented) A NAND according to claim 11, wherein:

the first power source is a high potential power source;

the second power source is a low potential power source; and

the first transistor, the second transistor, and the fourth transistor are each a P-type transistor, and the third transistor and the fifth transistor are each an N-type transistor.

13. (Original) A NAND according to claim 11, wherein the fourth transistor is replaced with an analog switch.

14. (Currently Amended) A NOR comprising:

a first transistor and a second transistor;

a third transistor; and

a fourth transistor and a fifth transistor electrically connected in series, wherein:

a drain of the first transistor is electrically connected to a drain of the second transistor and a drain of the third transistor;

gates of the fourth transistor and the fifth transistor are electrically connected to each other;

drains of the fourth transistor and the fifth transistor are each electrically connected to a gate of the third transistor;

sources of the first transistor and the second transistor are each electrically connected to a first potential power source;

sources of the third transistor and the fifth transistor are each electrically connected to a second potential power source; and

an amplitude of a signal inputted to each of gates of the first transistor, the second transistor, the fourth transistor, and the fifth transistor and to a source of the fourth transistor is smaller than a potential difference between the first potential power source and the second potential power source.

15. (Previously Presented) A NOR according to claim 14, wherein:

the first power source is a low potential power source;

the second power source is a high potential power source; and

the first transistor, the second transistor, and the fourth transistor are each an N-type transistor, and the third transistor and the fifth transistor are each a P-type transistor.

16. (Original) A NOR according to claim 14, wherein: the fourth transistor is replaced with an analog switch.

17. (Currently Amended) A shift register comprising:

a clocked inverter including a first transistor to a third transistor electrically connected in series; and

a fourth transistor and a fifth transistor electrically connected in series, wherein:

sources of the first transistor and the fifth transistor are each electrically connected to a first power source;

a source of the third transistor is electrically connected to a second power source;

a gate of the first transistor is electrically connected to drains of the fourth transistor and the fifth transistor;

a pulse generated at an (n-1)th stage is inputted to gates of the fourth transistor and the fifth transistor arranged at an n-th stage; and

a pulse or a clock signal generated at an (n-2)th stage is inputted to a source of the fourth transistor arranged at the n-th stage.

18. (Original) A shift register according to claim 17, wherein:

the first power source is a low potential power source;

the second power source is a high potential power source;

the first transistor and the fifth transistor are each an N-type transistor; and

the second to fourth transistors are each a P-type transistor.

19. (Original) A shift register according to claim 17, wherein:

the first power source is a high potential power source;

the second power source is a low potential power source;

the first transistor and the fifth transistor are each a P-type transistor; and

the second to fourth transistors are each an N-type transistor.

20. (Original) A shift register according to claim 17, wherein the fourth transistor is replaced with an analog switch.

21. (Original) A shift register according to claim 17, wherein the second transistor is eliminated.

22. (Currently Amended) A shift register comprising:

a plurality of stages each of which includes: a clocked inverter including a first transistor and a second transistor electrically connected in series; an inverter; and a third transistor and an analog switch, wherein:

the first transistor is a P-type transistor;

the second transistor and the third transistor are each an N-type transistor;

a gate of the first transistor is electrically connected to an output terminal of the inverter and a source of the first transistor is electrically connected to a high potential power source;

a gate of the second transistor is electrically connected to a clock signal line through the analog switch and a source of the second transistor is electrically connected to a low potential power source; and

the analog switch is electrically connected to the output terminal of the inverter and an input terminal of the inverter.

23. (Currently Amended) A shift register comprising:

a plurality of stages each of which includes: a clocked inverter including a first transistor and a second transistor electrically connected in series; an inverter; and a third transistor and an analog switch, wherein:

the first transistor is an N-type transistor;

the second transistor and the third transistor are each a P-type transistor;

a gate of the first transistor is electrically connected to an output terminal of the inverter and a source of the first transistor is electrically connected to a low potential power source;

a gate of the second transistor is electrically connected to a clock signal line through the analog switch and a source of the second transistor is electrically connected to a high potential power source; and

the analog switch is electrically connected to the output terminal of the inverter and an input terminal of the inverter.

24. (Currently Amended) A clocked inverter comprising:
a first transistor and a second transistor electrically connected in series,
a third transistor and a fourth transistor electrically connected in series, and
a fifth transistor and a sixth transistor electrically connected in series, wherein:
gates of the third transistor and the fourth transistor are electrically connected to
each other,

drains of the third transistor and the fourth transistor are each electrically
connected to a gate of the first transistor,

sources of the first transistor and the fourth transistor are each electrically
connected to a first power source,

sources of the second transistor and the sixth transistor are each electrically
connected to a second power source,

gates of the fifth transistor and the sixth transistor are electrically connected to
each other,

drains of the fifth transistor and the sixth transistor are each electrically
connected to a gate of the second transistor,

a first signal is inputted to a source of the third transistor, and
a second signal is inputted to a source of the fifth transistor.

25. (Currently Amended) A shift register comprising:
a first circuit inputted with a first signal;
a second circuit inputted with a second signal;
a first clocked inverter electrically connected with the first and second circuits;
a third circuit comprising a first analog switch, inputted with the first signal;
a fourth circuit comprising a second analog switch, inputted with the second
signal; and
a second clocked inverter electrically connected with the third and fourth circuits.

26. (Previously Presented) A clocked inverter according to claim 1, wherein the fifth transistor is replaced with an analog switch.

27. (Previously Presented) A shift register according to claim 17, wherein:
the first power source is a low potential power source;
the second power source is a high potential power source;
the first transistor, the second transistor, and the fifth transistor are each an N-type transistor; and
the third transistor and the fourth transistor are each a P-type transistor.

28. (Previously Presented) A shift register according to claim 17, wherein:
the first power source is a high potential power source;
the second power source is a low potential power source;
the first transistor, the second transistor, and the fifth transistor are each a P-type transistor; and
the third transistor and the fourth transistor are each an N-type transistor.

29. (Currently Amended) A shift register according to claim 22, wherein:
a gate of the third transistor is electrically connected to the input terminal of the inverter,
a source of the third transistor is electrically connected to the low potential power source, and
a drain of the third transistor is electrically connected to the gate of the second transistor.

30. (Currently Amended) A shift register according to claim 23, wherein:

a gate of the third transistor is electrically connected to the input terminal of the inverter,

a source of the third transistor is electrically connected to the high potential power source, and

a drain of the third transistor is electrically connected to the gate of the second transistor.

31. (Previously Presented) A shift register according to claim 25, wherein:

the first clocked inverter comprises a first transistor and a second transistor in series,

the first circuit comprises a third transistor and a fourth transistor in series,

the second circuit comprises a fifth transistor and a sixth transistor in series, and

the second clocked inverter comprises a seventh transistor and an eighth transistor in series.

32. (Previously Presented) A shift register according to claim 25, further comprising an inverter.

33. (Previously Presented) A clocked inverter according to claim 7, wherein the fourth transistor is replaced with an analog switch.

34. (Previously Presented) A clocked inverter according to claim 8, wherein the fourth transistor is replaced with an analog switch.

35. (Previously Presented) A clocked inverter according to claim 9, wherein the fourth transistor is replaced with an analog switch.